

XXVII.—*On some Birds observed in the Vicinity of Wei Hai Wei, North-East China.* By Staff-Surgeon K. H. JONES, M.B., F.Z.S., R.N., M.B.O.U.

BETWEEN 35° and 38° north latitude the coast of China tends strongly to the north and east, to form the conspicuous peninsula terminating in the promontory of Shantung, which separates the Strait and Gulf of Pechili from the Yellow Sea. On the northern shores of this peninsula and about twenty-seven miles from North-East Promontory, its easterly extremity, is the territory of Wei Hai Wei. Situated in latitude $37^{\circ}30'$ North, and longitude $122^{\circ}10'$ East, Wei Hai Wei comprises a considerable area of the mainland and an island, Leu Kung Tao, so placed that the water intervening between it and the coast forms a harbour of some size.

Leu Kung Tao is about two and a quarter miles long, and a mile wide at its broadest part. The long axis of the island runs approximately east and west. The island is hilly and somewhat rocky and barren, especially on its steeper northern slopes. The highest point is about five hundred feet above the sea-level. This island contains the naval establishment.

Leu Kung Tao is separated from the mainland by a wide strait to the eastward, and by a much narrower and deeper one to the westward. About half-way across the eastern entrance to the harbour is the rocky islet of Itan, surmounted by a ruined fort and fringed on one side by considerable reefs. The western entrance, towards its seaward opening, contains several small islets, which are favourite sitting-places of the Pelagic Shag, so plentiful at Wei Hai Wei.

On the mainland opposite to Leu Kung Tao is the walled city of Wei Hai Wei, whence the territory derives its name. Forty miles to the westward is Chefoo, and between these places and thirteen miles from the last-named is the rocky islet known as the White Rock.

To the east of Wei Hai Wei, and twenty-six miles away, is a bold headland formed by a mass of high land, bordered to the seaward by tall but crumbling cliffs, and known as the North-East Promontory, or Shantung Promontory, the most easterly land of China proper.

The North-East Promontory is separated from the other high land of the peninsula by a sandy plain of considerable size, on which are numerous small and several large fresh-water lagoons.

A few miles to the north and west of Shantung Promontory is Alceste Island, of small size, but possessing considerable cliffs, and of interest as a breeding-place of *Larus crassirostris*, the Bar-tailed Gull.

Eight miles to the westward of Alceste Island and at about a mile from the coast, is Kiming Island, considerably larger than the former and presenting fine cliffs on its seaward aspect.

Just opposite Kiming Island the mouth of a very large and shallow salt-water tidal lagoon opens into the sea, the shores of which in early autumn are thronged with Waders journeying south.

Some thirty miles to the south of North-East Promontory is South-East Promontory, situated on the island of Mur Tau and to the north side of Shi Tao Bay. At both North and South-East Promontories are placed powerful lights, which at the right seasons of the year attract immense numbers of migrants.

The country in the vicinity of Wei Hai Wei is hilly, barren, and rocky. The hills, which, on the mainland opposite to Leu Kung Tao, rise to a height of 1343 feet, are very rocky and barren, but planted in some places with small pines and scrub oaks. The valleys are scored with nullahs, worn away by the torrents which flow down from the hills in the rainy season.

The country is very badly wooded, almost the only trees which attain any size, except just round the villages, are those left to grow to maturity for semi-religious reasons. Firs, Oaks, and Willows form the majority of those small

groves which are found in and about graveyards, and other places, where to cut wood is a crime.

Willows, often of considerable size, fringe some of the sandy watercourses which are to be met with in the flatter portions of the country.

The hills either slope gradually down to the sea-level, or become from their position on the coast bold headlands, or they may merge at their feet into the sandy flats which in so many places border the shores of the Shantung Peninsula, and provide breeding-grounds admirably suited to such species as *Calandrella pilsopletta* and *Ægialitis alexandrina*.

The vicinity of Wei Hai Wei is very thickly populated, and the Chinese cultivate all the lower ground to the utmost limits of its productivity.

In the autumn and winter every stick and blade of grass that can be cut down or scraped from the ground is used as fuel, so that undergrowth has little chance to flourish.

Practically the only places where scrub and rank grass escape are the native cemeteries, which for this reason form sanctuaries for many species of birds.

The Shantung Peninsula is peculiarly well suited for the reception of migrating birds as they pass from north to south in autumn or in the reverse direction during the spring.

Korea is not much more than a hundred miles to the north and east, Port Arthur and the Kwantung Peninsula are still nearer and almost directly due north, and two hundred miles or so further north and west, across the Gulf of Pechili, lies Manchuria.

From all these lands, and from the vast spaces of North-eastern Asia which lie behind them, there pours down in early autumn a flood of migrants, and right across the southward track of very many of them stretches the Peninsula of Shantung.

The North-East Promontory appears to be a point at which many birds aim in their autumnal southward journey, and nowhere may more migrants be seen in August and September, especially after one of the north-easterly gales so prevalent during the last-named month. The presence of a

very powerful light on North-East Promontory doubtless attracts many birds to this place, particularly in stormy, cloudy weather.

From North-East Promontory most of the birds seem to pass along the coast to the southward, until they reach the vicinity of Shi Tao, whence a considerable number appear to strike out across the sea towards the mouth of the Yangtze Kiang.

Many migrants, however, arrive all along the coast between Wei Hai Wei and North-East Promontory, and doubtless towards Chefoo they are equally abundant.

To this part of China the writer of these notes made visits in 1901, 1902, and 1907; on the first two occasions in H.M.S. 'Waterwitch,' a surveying-vessel, and on the last to the Royal Naval Sick Quarters on Leu Kung Tao. In 1901 the 'Waterwitch' was engaged in surveying at Wei Hai Wei, and in searching for a supposititious shoal in the Pechili Gulf, from September 4th to the 14th, and some notes made during these ten days are incorporated in this article, as they are of some ornithological interest.

Whilst sheltering under the lee of a sandbank from a north-easterly gale in the neighbourhood of Taku, exceptional opportunities occurred for observing the migration of birds across the Gulf of Pechili from Manchuria. The observations made at this time are noted under the various species concerned.

In October 1901 a survey was also made of Shi Tao Bay, and there the arrival of many migrants was observed.

At Shi Tao, the writer made the acquaintance of the late Mr. C. A. Schwilf, a sportsman-naturalist, to whom, in the course of a long subsequent correspondence, he is indebted for many interesting notes and specimens.

In 1902 a survey of the coast of the Shantung Peninsula was made, as far to the west of Wei Hai Wei as White Rock, and to the east to the North-East Promontory and some ten miles to the south of it. In 1907 nearly all the notes were made either on Leu Kung Tao or on the mainland immediately opposite.

Unfortunately, the writer never arrived in Wei Hai Wei earlier than the last week in May nor remained there later than the middle of October, so that personal observations on the winter visitors are perforce omitted.

In the summer months the climate of Wei Hai Wei is cool, compared to places immediately north and south of it, but the winter is very severe for the latitude. When it is borne in mind that floating sea-ice is not unknown at Wei Hai Wei, and that its parallel of latitude in Europe crosses the south of Spain, it is obvious that the winter visitors must be of a more arctic type in Shantung than in the Iberian Peninsula.

On the question of local races and subspecies little will be found in these notes. That subspecies trinominally raised to specific rank exist in North-Eastern Asia is bewilderingly evident at the present time. The determination of such races appears to require an acuteness of vision, and particularly of colour-vision, such as is found in but few, and to which the writer can lay no claim.

The arrangement followed is in the main that of Dresser's 'Manual of Palearctic Birds.' It is, of course, to be understood that this small contribution to the ornithology of North-East China in no sense sets forth a *list* of the birds of Wei Hai Wei. It is impossible to think of ornithology in connection with the Shantung Peninsula without calling to mind that Swinhoe, that great pioneer in Chinese zoology, spent the last months of his well-filled career in the country at Chefoo, only forty odd miles from Wei Hai Wei. Sent there to try and recover failing health, he nevertheless found time and energy sufficient to make the many interesting notes and observations recorded in 'The Ibis' of 1874-75, to which reference is made, on occasion, in this short article.

It has been thought desirable to give measurements of the eggs mentioned in these notes, as such particulars appear to have an interest for some ornithologists, and, as the notes are in English, the measurements are in inches and decimal parts of an inch.

TURDUS OBSCURUS.

The Dusky Thrush was seen, not infrequently, on passage at Leu Kung Tao during the first week of October. The birds were stragglers, and each was observed alone; there were no parties or flocks.

TURDUS PALLIDUS.

The Pale Thrush was observed once, on the mainland opposite to Leu Kung Tao, in the first week of October.

TURDUS VARIUS.

White's Thrush was only observed twice, on both occasions during the last week of September. On one occasion, as sometimes occurs, this species was shot in mistake for a Woodcock.

MONTICOLA CYANUS.

The Blue Rock-Thrush occurs fairly abundantly about Wei Hai Wei, both as a breeding species and as a migrant.

In the opinion of the writer the species (?) which is next mentioned is only a variety of *Monticola cyanus*.

MONTICOLA SOLITARIUS.

The Red-breasted Rock-Thrush is the form most often to be seen about Wei Hai Wei, where many pairs breed in the hills, often at no great elevation. The nest is well hidden as a rule, and the eggs are not, so far as can be ascertained, different in any way from those of the Blue-breasted form.

The earliest date for eggs is June 14th and the latest July 2nd. On one occasion at least a bird with a blue breast was observed obviously mated with an individual with a red breast.

The species may sometimes be heard singing on the wing, but apparently it is able to take a long downward glide only when it has attained a certain elevation.

Thirteen eggs average 1.00 x .75 inch, and vary in length from 1.05 to .95 inch and in width from .79 to .70 inch.

PHYLLOSCOPUS BOREALIS.

Eversmann's Warbler appeared at the end of May in great numbers on its way north, and some were still to be seen

as late as June 8th. These birds are found returning about the middle of September. On the autumn migration the birds appeared to be in small parties or in pairs, and their numbers were not so obvious as in the spring.

PHYLLOSCOPUS SUPERCILIOSUS.

The Yellow-browed Warbler was observed on Leu Kung Tao on August 17th, on its way to the south of China.

PHYLLOSCOPUS CORONATUS.

This Willow-Warbler occurs at Wei Hai Wei during its southern migration. It was observed in September.

PARUS MINOR.

The Japanese Tit is moderately abundant about Wei Hai Wei. These birds are usually to be seen in pairs or in small parties, and they behave just as most other Tits do elsewhere.

The nest is placed in a hole in a tree or in a crevice in a wall, and is much like that of *Parus major*. The eggs from Shantung have very reddish markings in the few known specimens.

The local Chinese name "Chi-ta-chi" gives an excellent idea of the call-note.

PARUS PALUSTRIS.

The Marsh-Titmouse was observed on the mainland opposite Leu Kung Tao in company with *Parus minor*; it is not at all a common bird.

MOTACILLA LEUCOPSIS.

The White-faced Wagtail is a common summer visitor to Wei Hai Wei, and probably arrives early in April. The birds leave again about the latter part of September, during which month their numbers are largely augmented by those coming from further north. During August and September the family-parties, which are so commonly to be seen on the sea-shore earlier in the summer, join up to form flocks of considerable size, and it was not noted that on migration young and old birds were separated.

This Wagtail breeds commonly at Wei Hai Wei and Shi Tao, and very often places its nest in the crevice of a rock on the seashore, but sometimes among herbage in a nullah. At all times, however, this species displays a great liking for the vicinity of the sea. The nest is made of grass and lined with finer grass or horsehair. The earliest date for eggs is April 25th and the latest May 19th.

Four or five is the usual number of eggs in a clutch, but six were found on one occasion. The eggs are of two types, a brownish grey and a greenish grey. Twenty-six eggs from Shantung average $\cdot 79 \times \cdot 57$ inch, and vary in length from $\cdot 89$ to $\cdot 73$ inch and in width from $\cdot 53$ to $\cdot 61$ inch.

MOTACILLA OCULARIS.

This Wagtail occurs on passage, and was observed in September.

MOTACILLA MELANOPE.

The Grey Wagtail occurs abundantly on migration at Wei Hai Wei. As many as eighty birds were seen in one flock, opposite to Kyuming Island, on September 14th.

Whilst sheltering from a northerly gale, behind a sand-bank off Taku, many of these birds came on board and proved very useful in catching and eating the large blue-bottle flies which swarmed all over the ship to our great discomfort. This was during the first week of September.

ORIOLE INDICUS.

Swinhoe met with this Golden Oriole at Chefoo during the summer months, and thought that it might breed there. It was observed once in June to the westward of Wei Hai Wei, so that Swinhoe may be correct. The great majority of these birds were seen on migration and particularly at North-East Promontory, where they were abundant during the first week of September.

At Leu Kung Tao this species was only noticed once, also in September. Most of the birds seen at North-East Promontory were immature, evidently the progeny of those which had bred further to the north.

LANIUS CRISTATUS.

This Shrike was observed on passage at Shi Tao in the month of October.

LANIUS LUCIONENSIS.

The Philippine Red-tailed Shrike is a common summer visitor to the vicinity of Wei Hai Wei.

This Shrike appears, in this part of China, not infrequently to place its nest in quite large trees. It is well built, but perhaps a trifle small for the size of the bird, which has the usual Shrike-like habit of sitting on the top of a bush or small tree when prospecting for prey, but it is not vociferous like so many others of its kind.

The eggs have been described by La Touche from Kiu Kiang. Six eggs from Shi Tao average $\cdot89 \times \cdot64$ inch, and vary from $\cdot92$ to $\cdot85$ in length, and from $\cdot63$ to $\cdot66$ in width. They were laid about the middle of June.

LANIUS BUCEPHALUS.

This Shrike occurs about Wei Hai Wei as a breeding species, and Fleet-Surgeon J. H. Stenhouse found it nesting near Wei Hai Wei in the month of May.

HEMICHELIDON SIBIRICA.

Siberian Flycatchers come in to Wei Hai Wei and all along the coast of the Shantung Peninsula at the end of August and early in September, and, indeed, most of the last-named month. The first gale from the north-east, at this time of year, is sure to herald the advent of many of these little birds. On their first arrival they may be seen wearily sitting about on the rocks of the seashore or hawking for flies in a spiritless manner on the beach. They do not stay long, but soon betake themselves to the south.

ALSEONAX LATIROSTRIS.

The Brown Flycatcher arrives about the same time as the Siberian, but examples continue to come in until October.

Brown Flycatchers were not observed on the seashore in the same way as the Siberian Flycatchers. These birds do

not remain long; they almost all continue their journey south at once.

TERPSIPHONE INCIL.

The Chinese Paradise Flycatcher occurs on migration, and was observed at North-East Promontory and at Wei Hai Wei early in September.

At Leu Kung Tao one of these birds flew into a sitting-room, apparently attracted by a light.

HIRUNDO GUTTURALIS.

The Common Swallow of the East is abundant about Wei Hai Wei, where it breeds under the eaves of houses like its Western representative. Although the Chinese regard these birds as lucky, they do not protect them so rigidly in Shantung further south, and there is no great difficulty in obtaining their eggs. In the last week of September Swallows begin to congregate on the roofs and telegraph-wires, and sometimes on the rocks by the sea-shore, previous to their southern migration. The great majority have departed by the first week in October, two months later than in Hong Kong.

The nests are similar to those of *Hirundo rustica*, and the eggs are laid, in Shantung, towards the end of May and in June; four or five eggs form the usual clutch.

Thirty eggs from Shantung average $\cdot74 \times \cdot52$ inch, and vary in length from $\cdot82$ to $\cdot70$ inch and in width from $\cdot56$ to $\cdot48$ inch.

HIRUNDO STRIOLATA.

This Swallow is a very common bird about Wei Hai Wei, and, like *Hirundo gutturalis*, frequents native houses in the most familiar manner.

In some years this species seems to leave Shantung earlier than the Eastern Common Swallow, but perhaps, as a rule, it takes its departure a little later. It may be that the date depends, to a considerable extent, on the ability of the young to migrate, for as late as the first week in October, 1907,

there were young in a nest at Leu Kung Tao, and that year this species was later than *Hirundo gutturalis* in leaving.

The well-known flask-shaped nests of these birds are placed under the eaves of native and other houses, and many are usurped by the quarrelsome Tree-Sparrows (*Passer montanus*), in precisely the same way that House-Sparrows so often take by force those of the House-Martins in England.

Like the other Swallows, this species congregates in large flocks prior to making its migratory journey to the south.

The eggs are pure white and are laid in June and July. Five eggs from Shi Tao average $\cdot 76 \times \cdot 55$ inch, and vary from $\cdot 78$ to $\cdot 75$ in length and from $\cdot 75$ to $\cdot 54$ in width.

CHRYSOMITRIS SPINUS.

Siskins occur in September and October on migration.

At Shi Tao, in early October, a Siskin which had been caught in the lighthouse was seen in a cage. Many of these birds are captured by the native bird-catchers when they come in from the north.

LIGURINUS SINICUS.

The Chinese Greenfinch is probably resident about Wei Hai Wei in small numbers. Usually I saw these birds in small parties or in pairs, and they breed sparingly in scattered localities.

The white variety of the eggs of this bird found in Fokien was not met with about Wei Hai Wei, but the ground-colour of the eggs from Shantung is certainly less blue than that of those from South China.

The earliest date for eggs is April 27th and the latest May 29th. Eight eggs average $\cdot 70 \times \cdot 53$ inch, and they vary from $\cdot 72$ to $\cdot 68$ in length and from $\cdot 57$ to $\cdot 51$ in width.

EOPHONA MELANURA.

These Hawfinches I saw only in cages, but I was informed that they are caught about Wei Hai Wei and at Chefoo.

It has to be borne in mind, however, that there is considerable traffic in cage-birds on the Chinese coast and that they may be transported for considerable distances in junks.

PASSER MONTANUS.

The Tree-Sparrow, of course, takes the place in China of *Passer domesticus* in Europe, and is just as parasitic, bold, and noisy, while it is altogether different in habits from the same species in the West.

These birds build in the native houses, and are particularly fond of turning the Mosque Swallows out of their elaborate nests, which they do not even trouble to re-line, as a rule.

In 1901, the Tree-Sparrows in Leu Kung Tao were afflicted with a disease, which attacked fledglings, many of which died after first becoming blind. Large numbers must have perished from this cause during the summer.

Several broods are got off in the season, and young birds, barely able to fly, were noticed in September. Most clutches are laid in May and June and contain, as a rule, three or four eggs.

Twenty-four eggs average $\cdot76 \times \cdot55$ inch, and vary from $\cdot80$ to $\cdot68$ in length and from $\cdot60$ to $\cdot53$ in width.

EMBERIZA CHRYSOPHRYS.

This Bunting occurs plentifully during migration in the month of September. Several birds of this species came on board H.M.S. 'Waterwitch' whilst surveying in the Gulf of Pechili in the first half of September 1901.

EMBERIZA FUCATA.

The Grey-headed Bunting was observed at North-East Promontory on migration in September.

EMBERIZA PUSILLA.

A flock of Little Buntings was once observed on Leu Kung Tao in the first week of October.

EMBERIZA CIOIDES.

The Siberian Meadow-Bunting is the commonest breeding representative of the genus in the Wei Hai Wei district. Undoubtedly the majority are summer visitors, but it is just possible that some may remain through the winter.

This species arrives at Wei Hai Wei earlier in the year than the writer, probably some time in May, whilst by the end of September most of them have taken their departure for the south.

In the summer months the birds are always scattered over the countryside in pairs, and shew no tendency to become gregarious even at the autumn migration.

In habits this species seems to much resemble our Yellow Buntings (*E. citrinella*) ; the male has the same habit of sitting on the top of a small bush and repeating, *ad nauseam*, his plaintive little song, which, as Rickett very truly says, closely resembles that of our *Emberiza citrinella*, without the final note.

The breeding-season commences in May, and the nest is placed, in Wei Hai Wei, under a tuft of grass beneath a small rock or at the foot of a bush or little tree. The long grass which always clothes the graves in a Chinese cemetery is a favourite situation. As a rule, the nests are lined with horse-hair alone or with a mixture of horse-hair and fine grasses.

In Fokien Rickett and La Touche found this species nesting in small trees, a few feet from the ground, a situation which, so far as is known, it never selects in Shantung.

The eggs vary from three to six in number, but four or five form the usual clutch.

The earliest date for fresh eggs is May 13th and the latest June 8th, but the birds often sit much later than this, for on July 24th, 1907, a cock bird was noticed singing, in the manner which indicates a hen sitting somewhere in the vicinity, and, no doubt, Rickett is right in supposing this species to be double-brooded.

The eggs have been described by Mr. La Touche ('Ibis,' 1906, p. 633), but as they present considerable variation, the following remarks upon them may not be out of place :—

Almost all the eggs have a creamy ground-colour, inclining in some specimens to a purplish brown, but there occur a few in which the ground-colour is clear bluish white, and of such only three were obtained. The eggs of a clutch sometimes vary *inter se*, and I obtained one of three in which two are normal and one is of the bluish-white variety. The wreath of hair-like sepia-coloured markings mentioned by

Dresser in the 'Manual of Palæarctic Birds' is present in about half the specimens. In addition to the sepia-coloured hair-like markings, dark-coloured streaks occur on most eggs. Dark sepia-coloured spots of rounded shape, well defined in outline, occur also in many specimens. In nearly all eggs there are the yellowish blotches described by La Touche, but blotches of a reddish-brown and violet colour also occur in some specimens.

Eggs vary from .80 to .70 inch in length and from .63 to .57 in breadth. The average of forty-one eggs is $.76 \times .60$ inch.

EMBERIZA PASSERINA.

This form of the Reed-Bunting was found on one occasion breeding at Shi Tao, by Mr. Schwilf.

The nest was in precisely the same situation as that of its ally in Europe, and the one egg obtained was precisely similar. The date of the taking of this nest was June 20th.

MELANOCORYPHA MONGOLICA.

It is doubtful whether the Calandra Lark should be included, as it was only observed in cages. The Chinese assert, however, that the specimens which they have caged are taken near Chefoo, and as many of the birds are very young this is possible. It is also possible that the birds are brought from further north or from inland, but it is significant that in South China this species is called the Shantung Lark.

ALAUDA ARVENSIS.

Skylarks are met with about Wei Hai Wei only on migration, during August and September, when they are plentiful enough. Whilst sheltering from a gale off Taku, in H.M.S. 'Waterwitch,' a good many Skylarks came on board and ably assisted in demolishing the blue-bottle flies: this was early in September.

GALERITA CRISTATA.

Crested Larks are common birds about Wei Hai Wei during the summer months; and probably some are resident. The usual form met with in Shantung is very sandy-coloured

and desert-like, but those that come down on migration in September are often much darker.

These Larks never seem to breed down on the sandy flats, where the nests of *Calandrella piscoletta* are so abundant, but always in the fields and on the banks between them. Usually the birds are to be seen in small parties, but they are also found in pairs, and singly.

Eggs are laid from May 13th to July 1st, the majority in May, and three or four is the usual complement of a clutch : five are found occasionally. The eggs of this species taken in Shantung seem to fall into two well-marked types ; in one there are fairly well-defined markings of green or brown on a greenish-white ground, and in the other there are small markings, thickly scattered on a bluish-white ground. In the first-named type the general impression is of a greenish, and in the second of a greyish-white colour.

Forty eggs from Shantung average $\cdot 86 \times \cdot 66$ inch, and vary in length from $\cdot 94$ to $\cdot 73$ and in width from $\cdot 69$ to $\cdot 59$.

CALANDRELLA PISPOLETTA.

During the summer months Pallas's Desert-Lark abounds on the Shantung littoral. The sandy flats which in so many parts of the coast separate the hills and the cultivated land from the sea provide these little Larks with conditions admirably suited to all their breeding requirements. On the flats between Wei Hai Wei and Chefoo one may, with the assistance of the small Chinese boys, who are sent out to rake up grass, easily examine a hundred or more nests in the course of a day.

The nest of this species is of the flimsiest construction in most cases, and often does not even contain any proper lining. Frequently the bottom of the nest is formed by the sand alone, and sometimes it is nothing more than a horse-shoe-shaped mass of grass, the space between the ends being filled by a lump of sandy material or a stone. Some nests, on the other hand, are well sunk into the sand, and some are built up on the side of a small hillock and have quite good bases and grass or hair linings.

The first clutches of eggs have been taken about the middle of April, and as fresh eggs are still obtainable until the middle of June, there is little doubt that this species is double-brooded in Shantung. The usual clutch is four, rarely there are five, but not infrequently three.

The young have blackish down and an orange gape.

Mr. Dresser states, in the 'Manual of Palæarctic Birds,' that the song of this species *is said to be* of a high order. An indifferent and feeble imitation of that of the Skylark would perhaps better describe it.

This bird does not often soar, and still more rarely sings when so doing. Usually Pallas's Desert-Lark sings when upon the ground, and in the breeding-season the male may be seen running rapidly up and down and round about its mate, with wings and tail outstretched, and the feathers on the nape elevated, singing furiously.

The earliest date on which eggs were taken is April 15th and the latest June 17th.

The average of seventy-three eggs is $\cdot77 \times \cdot59$ inch, and they vary from $\cdot85$ to $\cdot70$ in length and from $\cdot62$ to $\cdot54$ in width.

The eggs have been elsewhere described, but it may not be out of place to remark that they vary greatly in appearance, even in the same clutch. The majority are of a greenish-white ground-colour, generally profusely spotted and speckled with markings of brownish or yellowish, so that some bear a certain resemblance to those of the Sedge-Warbler.

In shape most eggs are blunt ovals. Specimens shewing a zone of markings at the junction of the middle and upper thirds are fairly common, but those with bold markings at considerable intervals are rare.

STURNUS POLTORATSKYI.

A Starling, which appears to belong to this subspecies, occurred in small numbers at Wei Hai Wei.

PICA RUSTICA.

Magpies occur plentifully in and about Wei Hai Wei, as indeed they do almost everywhere in China. In the summer

time family-parties, of six to nine, are often to be met with, but in September flocks of as many as thirty individuals are to be seen. It is possible that some of the birds forming these large parties wander in from districts other than those in which the flocks are seen.

Probably nearly all the Magpies about Wei Hai Wei are resident in Shantung. The Chinese there regard the Magpie as a lucky bird, but although they will not readily kill one themselves, they do not object to a foreigner doing so, and they have no scruples about taking the eggs.

This bird builds, in Shantung, precisely the same kind of nest as it does in Europe, but the majority of eggs are laid in May. The earliest date for eggs is May 6th and the latest June 1st. The usual clutch is four or five, and more than seven have not been found.

As Magpies are not persecuted in China, they naturally become very tame, and nests are often to be met with in quite low trees.

The olive-green coloured eggs, so common at Hong Kong, were not met with at Wei Hai Wei, where they are of a bluish green. Twenty-four eggs from Shi Tao average $1.38 \times .95$ inch, and vary in length from 1.46 to 1.22 and in width from 1.02 to .92.

CYPSELUS PACIFICUS.

The Pacific Swift is a very abundant species about Wei Hai Wei during the summer months. In habits these birds somewhat resemble *Cypselus apus*, but they are less crepuscular and are much more addicted to the tops of mountains, rocky islets, and other places far removed from human habitations.

Pacific Swifts may be seen at Leu Kung Tao on a summer evening, flying in very large numbers about the highest points of the island, hawking for prey, but without very much screaming.

The only breeding-place found was at White Rock, where a small colony was striving to maintain itself, in spite of the existence on the islet of innumerable hungry rats. The sites of many old nests were found with broken eggs and

scattered feathers to tell a melancholy story of death and destruction wrought by the predatory rodents.

One new nest was observed on June 16th; it was a small affair of grass and seaweed, all glued together by some gelatinous material produced by the bird, and so placed in a cleft of the rock that the hen bird could only sit, so to speak, in a "fore and aft" position.

The latest date on which these birds were seen was September 23rd at North-East Promontory, by which time, however, nearly all had gone south.

Swinhoe obtained the eggs of this species at Chefoo.

CAPRIMULGUS JOTAKA.

This Goatsucker occurs on migration, and was noticed on many occasions at the end of August and in the beginning of September. When it first arrives it will sometimes hawk over the sand-flats in broad daylight and close to the sea-shore.

DENDROCOPUS CABANISI.

This Spotted Woodpecker was only met with about Wei Hai Wei on one occasion, on the mainland, towards Chefoo. This was on July 1st, and the only specimen obtained was a male of the year. Nesting-holes, presumably of this bird, were noticed in some large willow trees at the place where the bird was obtained.

HYPOPICUS POLYOPSIS.

This handsome little Woodpecker occurs about Wei Hai Wei at the end of August and the beginning of September, when on its southward migration. A specimen flew on board H.M.S. 'Waterwitch,' whilst surveying in the Gulf of Pechili to the north of Wei Hai Wei, on September 11th.

At the time of year specified above there oozes from the oak trees (*Quercus mongolicus*) resinous matter, which attracts numerous insects, and in the pursuit of these *Hypopicus polyopsis* becomes so engrossed that it can be obtained with very little trouble. All the birds were seen in pairs or in parties of three, and all those obtained were immature males.

The cry is a loud sharp "keek" frequently repeated and at once calling attention to the presence of the birds.

ALCEDO BENGALENSIS.

Though not very plentiful, Kingfishers are found on most of the larger streams about Wei Hai Wei. Two of these birds were observed busily fishing in the sea, at Itau Island, on September 8th.

HALCYON PILEATUS.

The Black-headed Kingfisher was only observed on one occasion in the neighbourhood of Wei Hai Wei, and that was at Itau Island on September 2nd. There is little doubt that the bird was on its journey south. The master of a merchant ship told the writer that, at about the same time, four or five of these Kingfishers came on board his ship between North-East Promontory and the mouth of the Yangtze.

EURYSTOMUS ORIENTALIS.

The Broad-billed Roller is a fairly common bird about Wei Hai Wei, where it arrives in May, to leave again at the end of September. A considerable number remain to breed, but never, so far as is known, in old Magpies' nests, after their habit in Fokien. Usually the eggs are laid in a hole in a tree, but, according to the Chinese, sometimes in a cleft in the rocks. A considerable influx of migrants from Korea and further north takes place at the end of September.

The peculiar undulating and Woodpecker-like flight of this bird at once calls attention to it in the field.

Three eggs taken, one in June and two in May, average 1.33×1.05 inch.

UPUFA EPOPS.

The only Hoopoe obtained was shot on September 6th.

Swinhoe met with this species once during the summer at Chefoo. The lighthouse-keeper at North-East Promontory stated that Hoopoes were, later in the year, sometimes very numerous.

CUCULUS CANORUS.

Cuckoos are fairly numerous about Wei Hai Wei, and it is surprising never to find their eggs in the nests of *Calandrella pispoletta*. The only egg obtained, which may be safely assigned to this species, was found in a nest of *Emberiza cicides*, and bears a remarkable likeness to that of its host; it was taken on May 28th.

Cuckoos were seen in great numbers on migration at North-East Promontory early in September. Many of them were birds of the year.

ASIO ACCIPITRINUS.

The Short-eared Owl was only once met with, early in October, after a gale of wind, which may have driven it out of its usual course.

SCOPS STICTONOTUS.

This Scops-Owl was twice obtained at Shi Tao, on September 26th and October 2nd. These birds were undoubtedly on migration.

ATHENE BACTRIANA.

This Owl was obtained once, on September 26th, near Shi Tao.

BUBO MAXIMUS.

The Eagle-Owl is a resident in the hills near Wei Hai Wei, and young birds have been procured there early in May. The birds are not common, and they are stated to breed in very difficult places in the hills.

No eggs were obtained.

CIRCUS SPILONOTUS.

At North-East Promontory, in September, these Harriers were very numerous on certain days, hawking over the marshy and grassy places. Almost all seen were females, and they did not remain in the locality for more than about a day.

BUTEO VULGARIS.

Buzzards were only observed in the hills between Wei Hai Wei and White Rock, and only two pairs were seen.

As the time was early in June, there is every likelihood that they breed in that part of Shantung.

ACCIPITER NISUS.

Swinhoe noticed at Chefoo, nearly forty years ago, that Sparrow-Hawks were often in the possession of the Chinese, who used them for hawking small birds. He observed that this bird did not occur in the vicinity, or, at any rate, did not breed there.

Young Sparrow-Hawks were occasionally seen at Wei Hai Wei, and as early as the end of May these birds either came from inland, possibly not from very far away, or had been brought in junks from some neighbouring part of the coast. When it is remembered how extraordinarily localised species often are, and nowhere more so than in China, the former assumption appears the more likely.

MILVUS MELANOTUS.

The Black-eared Kite, which is only fairly common about Wei Hai Wei in the spring and summer, at the end of August suddenly becomes very numerous, on account of the arrival of many migrants from the north.

So far as the writer is aware, in Shantung, this species nests in rocks, and not in trees, as it usually does in the south of China. The eggs are laid in the first half of April, and although the birds do not actively resent their removal from the nest, they fly round with a peculiar mewing cry. When, however, they have young they may fiercely attack an intending marauder.

The average of nine eggs from Shi Tao, Shantung, = 2.28×1.65 inches. The greatest length is 2.46 and the least 2.2; in width they vary from 1.78 to 1.87.

FALCO PEREGRINUS.

The Peregrine Falcon undoubtedly occurs as a resident about Wei Hai Wei, and is known by the Chinese to breed at some distance inland. Swinhoe knew the bird to breed about Chefoo in his time.

The Chinese esteem this species highly for hawking, and with it kill a good deal of game in certain places.

About the last week of September, and particularly at North-East Promontory, Peregrine Falcons occur in very large numbers and a dozen may be seen at one time on the wing there. They find abundant quarry among the other migrants and seem particularly fond of ducks.

These Peregrines are not at all shy, and at Shi Tao, in October, one settled in the rigging of H.M.S. 'Waterwitch,' whence it made repeated dashes at the Gulls flying round the ship.

FALCO SUBBUTEO.

The Hobby was only once obtained—near the North-East Promontory, on September 23rd. This bird was evidently on migration: its stomach was full of the elytra and other chitinous parts of various Coleoptera. It was an adult female, and in beautiful condition.

FALCO AMURENSIS.

The Eastern Red-footed Falcon was, during the summer, by far the commonest Hawk met with in the Shantung Peninsula.

This species loves the sandy wastes which border the Gulf of Pechili and the Yellow Sea in so many places, and there it finds abundance of the grasshoppers and sand-lizards on which it chiefly preys, the birds' crops often containing immense quantities.

This bird is very Kestrel-like in its habits, and hovers when about to make a stoop in exactly the same way as *Falco tinnunculus*, while its cry is very similar.

The Chinese, who are, about Wei Hai Wei, great sportsmen, not infrequently train the birds for hawking, and fly them at Sparrows and other small game.

The nest of this species is always, apparently, placed in a tree and is never, like that of the Kestrel, situated in rocks. There is no doubt, however, that in the majority of cases this bird makes use of a deserted Magpie's nest in which to lay its eggs, and, indeed, the Chinese assert that it always does so.

Some nests were observed which appeared to have been built by the birds themselves, perhaps on a foundation laid by a Magpie: they were made of rather small sticks, and lined with grass.

This species, as Abbé David has pointed out, is very tame and confiding, and frequently breeds close to villages or even inside the walls of a city. Several nests are sometimes discovered in close proximity.

This species may breed when quite immature, and a pair, in plumage which indicated their youth, was obtained from a nest containing eggs on June 26th. It is a late breeder, and, as a rule, eggs are not laid until the last week of June, or the first week of July.

Four is the most usual number of eggs in a clutch, three is not uncommon, but five is rare. These eggs are of two types, one brownish or sepia-coloured and the other reddish. Most specimens are marked thickly with reddish spots on a yellowish-white ground, and a few are richly and heavily blotched with large cloudy markings. Some eggs are quite light in colour, being faintly marked with small brown spots on a yellowish ground, whilst others, again, are entirely yellowish-white, with scanty and scattered spots of sepia-colour.

Forty eggs from Shantung average 1.41×1.14 , and vary in length from 1.47 to 1.31 and in width from 1.19 to 1.08.

FALCO TINNUNCULUS.

The Kestrel is fairly common as a resident in and about Wei Hai Wei, each pair of birds appropriating some range of cliffs or a bold headland to themselves. The numbers of this species, like those of so many others, are vastly augmented in August and September by the arrival of numerous migrants from further north.

So far as is known, this species, unlike the nearly allied *Falco amurensis*, never nests in a tree at Wei Hai Wei; but invariably in some cleft of the cliffs or rocks by the sea-shore.

FALCO SATURATUS.

This dark-hued Kestrel may perhaps breed in some parts of Shantung, as it does apparently further south, but it was seen about Wei Hai Wei only as an autumn migrant. The earliest arrivals appear at the end of August, and some are still coming from the north at the end of September.

Generally the birds are in pairs and are wilder than Common Kestrels.

PANDION HALIAËTUS.

An Osprey was once observed at Shi Tao early in October.

PHALACROCORAX CARBO.

Cormorants are fairly abundant on the coast about Wei Hai Wei, and there can be no doubt that they breed in numbers in some place yet to be found.

Early in June a Cormorant, accompanied by two young, was seen on White Rock.

PHALACROCORAX PELAGICUS.

The Pelagic Shag is a far more abundant bird about Wei Hai Wei than the preceding species, and, like it, is apparently a resident in this part of China, but, at the same time, it must be admitted that nests, eggs, and young have not yet been observed.

ARDEA CINEREA.

Hérons were fairly numerous in August at a large freshwater lagoon on the coast opposite Kyming Island. They were very wild and no specimens were obtainable. At Shi Tao only single birds were noticed, and they were scarce.

No information as to their breeding was obtained.

ARDEA ALBA.

Great White Egrets were plentiful on the same lagoon as the Herons, but, like them, sparingly noticed elsewhere. These birds were also very wild.

ARDETTA SINENSIS.

The Chinese Little Bittern was noticed on migration, in small numbers, at North-East Promontory during the first half of September.

ANSER FERUS.

A few wild Geese began to make their appearance at Shi Tao during the first week of October, but they did not stay there, and strings of birds flying at a considerable height could be seen making straight out to sea in the direction of the Yangtze. Later in the year these Geese, and doubtless several other species, are abundant. The Chinese inspire them with no fear and can get within twenty yards of them as they feed in the fields, but this is quite impossible for a European.

The natives have a curious Goose-trap, used in hard weather, which may be worth mentioning. A bait is attached to a thin strong piece of twine and the latter to a ring, which is hidden in the snow or under the soil. The bird takes the bait and finds itself fastened to the ring, which it attempts to remove with its foot. The foot gets pushed through the ring and the bird, tied head and foot, is easily captured. The writer never personally saw a Goose captured in this manner, but there is no reason to doubt the accuracy of his informant.

BRANTA NIGRICANS.

These Brent Geese were first noticed on the 14th of September, when a flock of five was seen. Others followed, but, like the Grey Lag Goose, all seemed very shortly to take their departure for the south. These Geese were only seen near Kyming Island and at North-East Promontory.

ANAS BOSCAS.

Mallards occur about Wei Hai Wei as early as the first week in August, but are not numerous until about the middle of September. About North-East Promontory they were very abundant on some days.

ANAS ZONORHYNCHA.

This Duck may be resident on some of the larger lagoons of fresh water, but it was not observed before the first week in August.

QUERQUEDULA CIRCIA.

The Garganey was observed only at the North-East Promontory during the month of September.

NETTION CRECCA.

Teal were very abundant on the freshwater lagoons on North-East Promontory during the month of September.

MARECA PENELOPE.

Wigeon become plentiful about Wei Hai Wei in August, but most of them keep out at sea, and only a few take to the freshwater lagoons.

ÆTHYIA MARILA.

Scaup Ducks occurred in immense flocks at the end of August, and were especially abundant in the vicinity of Kyming Island. A few of these Ducks began to arrive quite early in August and some took to the freshwater lagoons.

COLUMBA RUPESTRIS.

The Eastern Rock-Pigeon is a very common bird on the rocky portions of the coast near Wei Hai Wei, and is there a resident. Although this species is supposed chiefly to frequent inland hills and cliffs it certainly, in Shantung, is much more abundant on the coast. Large numbers of these birds descend to feed upon the bean-fields in the autumn.

Sometimes this species nests on an inland cliff, but about Wei Hai Wei a cliff on the sea-coast is usually selected. The eggs are laid from April until July, and the nests are made of small sticks and placed in a crevice of the rock.

Eleven eggs average 1.51×1.12 ; they vary in length from 1.63 to 1.44 and in width from 1.17 to 1.08.

COLUMBA IANTHINA.

The Black Pigeon is a summer visitor to the neighbourhood of Wei Hai Wei, and is not common there. The birds arrive in May and leave again in October.

This species breeds from May until July, and the nest is placed in a tree and closely resembles that of *Turtur orientalis*.

Three eggs measure respectively 1.36×1.04 , 1.39×1.04 , and 1.32×1.04 .

TURTUR ORIENTALIS.

The Eastern Turtle-Dove is a fairly common breeding species about Wei Hai Wei, but in the month of September its numbers are largely augmented by migrants from the north. As early as the first week in September some of these birds were observed crossing the Gulf of Pechili from Manchuria on their southward journey, but many were noticed as arriving about the end of that month at North-East Promontory. In the last-named locality the birds did not remain, but rapidly moved on to fresh places. This species occurs in winter as far south, at least, as Hong Kong. These birds are usually met with in scattered pairs during the summer months, but in the autumn small parties are the rule, and large flocks were not at any time observed.

The nest is very like that of the Common Turtle-Dove of Europe, and is placed in a tree at an elevation of from twelve to eighteen feet.

The eggs, generally bluntly oval in shape, are, of course, white, and as a rule two in number, though sometimes only one is incubated. The earliest date for eggs is May 20th and the latest August 24th, the majority are laid in June.

There is little doubt that this species is double-brooded.

TURTUR HUMILIS.

The Chinese Red Dove occurs somewhat rarely about Wei Hai Wei, and is said to remain throughout the winter. It breeds in similar situations to *Turtur orientalis*, and lays, as a rule, two eggs. The earliest date for eggs is May 15th and the latest August 24th.

Five specimens vary in length from 1.14 to 1.03 and in width from .86 to .82.

PHASIANUS TORQUATUS.

There was a locality, about twelve miles from Shi Tao, where the Chinese Pheasant was at one time resident and fairly abundant. The Chinese, however, took to beating the birds out of cover at all seasons, and then flying Peregrine Falcons at them, by which means they have effectually wiped them out.

CACCABIS CHUKAR.

The Chukar Partridge occurs very sparingly in the hills about Wei Hai Wei, but is probably a resident. No doubt the natives trap it to such an extent that it is almost exterminated. I only once met with it, on September the 14th, 1901, when about ten or a dozen were observed together at Mahto.

Swinhoe met with this species at Chefoo, and it occurs also about Shi Tao, but somewhat rarely.

COTURNIX COMMUNIS.

Quails occur about Wei Hai Wei only on passage, and probably pass northward fairly early in the year. About the third or fourth week in September they began to put in an appearance on the return journey, but were never noticed in any numbers, and usually in pairs or two or three at a time. At Shi Tao these birds were found well on into October.

At Chefoo Swinhoe obtained from native bird-catchers examples of the local race known as *Coturnix japonicus*, to which most of the Quails occurring on migration probably belong.

TURNIX BLANFORDI.

Blanford's Hemipode is a common summer visitor to the Shantung Peninsula, and is known to the Chinese as the Yellow Quail.

Probably most of the birds arrive in May, and a large number remain to breed. In the autumn the ranks of this species are largely augmented by the incursion of migrants from more northerly breeding-stations. The first arrivals appear as early as the beginning of September, and a specimen killed by a Peregrine was observed on the seashore on the 3rd of that month.

The nest, in Shantung, appears to be always made in a corn-field, and it is, therefore, only when the sickle is put to the crop that the nest is discovered.

The earliest date for eggs is June 10th and the latest

July 9th, but as the finding of the nest is governed by the cutting of the corn, these dates may not be a true index to the time of nidification.

The nest is a mere pad of grass on the ground, among the corn-stalks, and whether it ever has a hood, like that of its ally *Turnix pugnax*, is doubtful. The full clutch of eggs seems to be invariably four.

The eggs have been described by the present writer in 'The Ibis' for 1908 (p. 457), and closely resemble those of *Turnix pugnax*. The eggs described by Mr. La Touche in 'The Ibis' (1907, p. 17) were probably of a variety somewhat rare in Shantung, but which does occur there.

During the breeding-season this species is very shy and is flushed with difficulty, but in October it gets up readily from under the feet and flies straight away from its disturber, to pitch again after twenty-five to fifty yards of flight. Mr. Stuart Baker informed the writer that it breeds on the frontier of China and Burma, and it is known to occur during the summer in Manchuria, so that its breeding-range is very extensive.

A young bird was seen in a cage in the middle of August, so that possibly a second brood is sometimes got off.

Fifty-four eggs average $1.03 \times .80$, and vary in length from 1.06 to .95 and in width from .88 to .74.

PORZANA PUSILLA.

This Crake was only met with on one occasion, near North-East Promontory, in September 1902.

GALLINULA CHLOROPUS.

The Moorhen was only met with in one locality, a large, shallow, freshwater lagoon, fringed with abundant reeds and situated close to the sea-shore, almost opposite Kyming Island. At this place it was very numerous and, it is fairly certain, had bred there in plenty. The time was early in August, and most of the birds seemed to be paired. No nests or young birds were seen at this place.

GALLICREX CINEREUS.

The Indian Watercock is a common breeding species about Shi Tao, where it does not arrive until June, and leaves again in September. Swinhoe met with the bird at Chefoo in the summer, and surmised that it bred there: he states that the local Chinese name is "Hung Kwan," or Red-Cap; but at Shi Tao it is known by the name of "Pam-Pam," from the characteristic cry, which is heard especially in the evening and first part of the night.

It is a late breeder, no doubt because the summer is not sufficiently advanced for purposes of nidification in a sub-tropical and tropical species until the month of July, when most eggs are laid. The earliest date for fresh eggs was July 8th and the latest August 6th.

The nest is always made among rank grass and reeds in damp and marshy places, and is, of course, composed of grasses and dried water-plants below and lined with finer kinds.

The eggs vary from four to seven in number, but most nests contain six. They are very handsome, being of a very yellowish cream-colour, thickly streaked and with varying shades of red and red-brown. One clutch of six is of a whitish ground-colour, rather thinly streaked with reddish-brown, and spotted with shell-markings of a grey colour. In all clutches of six which were seen, one egg is of a much paler colour than the others.

Fleet-Surgeon J. Stenhouse, R.N., found this bird breeding up in a tree in Fokien Province; it never makes use of such a nesting-site in Shantung, so far as is known.

It probably breeds still farther north, for Commander H. Lynes has met with it in Corea.

The eggs vary in length from 1.74 to 1.55 inches and in breadth from 1.27 to 1.11: the average of forty-one eggs is 1.64 by 1.20.

CHARADRIUS DOMINICUS.

The Eastern Golden Plover was met with on several occasions on its way south from its far northern breeding-grounds. In October 1901, on several successive days,

large flights of these birds came to Shi Tao, where they established themselves on the mud-flats, and where, contrary to their usual custom, they proved, at any rate at first, uncommonly tame. They did not remain long, however, on the mud; but took to the grass, where they at once became as wary as they are elsewhere.

Near Kyming Island, on the sandy grassy flats near the coast, for several days a flock of these birds was seen, but they were very wild and never came within shot. This was in the second week of August, so that their period for autumn migration is considerably extended.

SQUATAROLA HELVETICA.

Grey Plovers were found in some numbers at Shi Tao during the first half of October. No large flocks were seen, but parties of three or four birds were frequently met with on the mud-flats, and were decidedly tame. It was thought that the main body of migrants had either passed to the south or had yet to come.

Many specimens still retained a great deal of black on the breast.

ÆGIALITIS CANTIANA.

The Kentish Plover is one of the commonest breeding-birds on the sandy wastes which border the Yellow Sea and the Gulf of Pechili in so many parts of Shantung Promontory, and most of the observations on this species were made on the flats between Wei Hai Wei and Chefoo.

On the flat tracks of sand which a retreating sea leaves behind it, these birds breed in thousands and gave me ample opportunities of studying their habits, for they are very tame. This form of the Kentish Plover is considered to be subspecifically distinct from that which occurs in Western Europe; but it does not seem to Mr. Dresser to be separable. Probably this bird breeds in suitable localities all down the coast of China, for La Touche reports eggs from as far south as Swatow; it was observed about Hong Kong at the end of May.

During September, so far as is known, all birds of this

species leave the neighbourhood of Wei Hai Wei for the south. In habits and actions the Kentish Plover in North-East China does not appear to differ in any way from the same bird in Europe.

The number of bogus nests or scratches is astonishing, and to each of them leads four tracks of the birds' feet, in the form of a cross, of which the intersection of the two cross-pieces is formed by the seraped hollow. Of all the nests observed not one was on shingle, all were on the sand, but certainly shingle is not plentiful. Nearly all the nests have small pieces of shell round and in them.

Frequently eggs of the Kentish Plover were found almost buried in the sand, but whether this was due to action on the part of the birds, or whether the sand had simply blown into this position it was impossible to make out. If the eggs are purposely covered by the birds, which seems probable, it may be with the double object of concealing them from view and preserving them from the scorching rays of a hot sun and the desiccating action of the very dry wind.

All the clutches observed were of three eggs except one, which contained five, and were thought to be the produce of one hen. It is of interest in this connection to observe that Ticehurst, 'History of the Birds of Kent,' p. 424, mentions clutches of five eggs and gives his reasons for believing them to be the produce of single pairs.

The Kentish Plovers have dark legs, and none were seen with light-coloured ones, but when first hatched, and for some weeks afterwards, the young shew the dark colour only on the foot and the back of the tarsus.

The earliest record of fresh eggs, a full clutch, was April 28th, and on June 18th many nests contained one and two fresh eggs only, so that it is possible that this species is sometimes double-brooded about Wei Hai Wei. The great majority of birds begin to breed, however, during the first week of June, and as they are a good deal robbed by small Chinese boys, this may account for some being later than others.

The eggs vary from 1·35 to 1·17 in length and from ·95 to ·87 in breadth, and the average of seventy-six eggs is $1·27 \times ·92$.

ÆGIALITIS CURONICA.

The Lesser Ringed Plover is not uncommon in Shantung, but on the seaboard it is much scarcer and more local than the Kentish Plover. As in Europe, this species shews a preference for the neighbourhood of fresh water, and it does not often nest close to the sea. The birds are found in scattered pairs or in small communities. The breeding-season about Wei Hai Wei may be said to extend from about May 20th to June 10th.

Twenty eggs from Shantung average $1·14 \times ·85$, and vary in length from 1·20 to 1·08 and in width from ·88 to ·84.

STREPSILAS INTERPRES.

Turnstones were observed on their northward journey at Leu Kung Tao at the end of May, and in greater numbers on their southern migration early in September, at a point on the coast opposite Kyming Island.

PHALAROPUS HYPERBOREUS.

The only occasion on which Red-necked Phalaropes were seen about Wei Hai Wei was on August 14th, 1902, when a flock of six settled on a small pool of fresh water near Kyming Island. These birds had still a great deal of red on their necks.

SCOLOPAX RUSTICULA.

Woodcocks occur both going north in spring and coming back in autumn. At the time of the spring-passage they are, as a rule, very fat and lazy and shew poor sport, but in October, on the southern passage, they are no easier to shoot than elsewhere.

GALLINAGO CÆLESTIS.

The Common Snipe occurs in large numbers about Wei Hai Wei on the spring and autumn migrations. The Snipe come in as early as the first week in August, and continue to do so in flocks of various sizes, until the latter part of

September, when practically all have passed. A Snipe shot in the second week of October at Shi Tao was in very poor condition. The numbers of Snipe appear to vary greatly in different years, but it was noticed that when the wind and weather are not propitious for a further journey to the south, they often remain in the vicinity for some days. On the other hand, at North-East Promontory it was noticed that they remained for two days when all the conditions were in favour of their continuing their journey.

At North-East Promontory, September 1902, in very stormy weather several parties of Snipe were observed coming in from the sea, obviously having crossed from the neighbourhood of Port Arthur; they were in flocks of from five to ten birds, flying fairly high up, and uttering their characteristic cry.

TRINGA ALPINA.

Dunlins occurred in all suitable places near Wei Hai Wei as early as the middle of August, while in September and early October they became exceedingly numerous.

There seemed to be two forms of this species which were obtained at Shi Tao, one of which was much larger than the other. The larger form kept separate from the smaller, but flocks of both were to be seen on the same mud-flat. It is curious to note, however, that on the 9th of June, to the west of Wei Hai Wei, a Dunlin was obtained in full breeding-plumage, its foot being in a snare attached to a small withy, which it had pulled up when it escaped. As the Chinese set these snares near the nests of birds, there is every likelihood that this Dunlin was breeding in the neighbourhood. Wei Hai Wei is not further south than Southern Spain, where the Dunlin is known to breed. It is possible that the larger form of Dunlin mentioned above may be *Tringa americana*.

TRINGA MINUTA.

The Little Stint occurs plentifully on the coast of Shantung from early in August onwards, generally in small flocks of from twenty to thirty birds.

TRINGA RUFICOLLIS.

This Red-breasted Stint is the commonest of the Stints to be met with about Wei Hai Wei, where it occurs in the same places and at the same times as the other species of the genus.

TRINGA SUBMINUTA.

Middendorff's Stint is plentiful in small flocks on the sand and mud-flats at Shi Tao and near Kyming in August and September.

CALIDRIS ARENARIA.

What applies to the Stints applies also to the Sanderling, except that the latter is less abundant.

TOTANUS GLOTTIS.

At the end of September and early in October Greenshanks were met with in considerable numbers at Shi Tao.

TOTANUS OCHROPUS.

Green Sandpipers occurred in large flocks near Kyming and near North-East Promontory late in August and early in September.

TOTANUS GLAREOLA.

Greenshanks were very numerous at Shi Tao in October 1901, but were not observed elsewhere. Their numbers increased markedly after a wind from the north or north-east.

TOTANUS HYPOLEUCUS.

Sandpipers were noticed on one occasion only at the large freshwater lagoon opposite Kyming Island on August 14th, 1902.

TOTANUS INCANUS.

This Tattler occurred at Shi Tao in October. Fleet-Surgeon J. H. Stenhouse met with this species at Chefoo.

LIMOSA BAUERI.

Bar-tailed Godwits were first noticed on August 6th, but about the middle of the month they were abundant on

the flats opposite Kyming Island. These flocks did not remain long, but others continued to come in until about the middle of September.

LIMOSA BELGICA.

Black-tailed Godwits were much scarcer than Bar-tailed, and unlike them were not seen in flocks of any size; many individuals seemed to be solitary.

NUMENIUS VARIEGATUS.

This species occurred on its northward migration in considerable numbers about Wei Hai Wei at the end of May, and a few were observed returning in August. Some individuals appeared to be still frequenting the mud-flats between White Rock and Wei Hai Wei as late as June 18th, when they were in company with Curlews.

NUMENIUS ARQUATA.

Curlews were seen until after the middle of June near Wei Hai Wei. Their behaviour was peculiar in 1902, for in a letter from Mr. F. W. Styan it is stated that on July 9th at one place on the Yangtze they were heard going north, and at another place passing to the south. In August and September these birds are fairly common on the flats opposite to Kyming Island.

STERNA MELANAUCHEN.

Terns referred to this species were noticed in large numbers near Taku, and in September they began to put in an appearance in the neighbourhood of Kyming Island.

STERNA CASPIA.

The Caspian Tern was met with only once, at a salt-water lagoon which opens into the sea opposite Kyming Island, on September 14th.

LARUS CANUS.

Common Gulls were first noticed in September, near North-East Promontory, in heavy weather.

STERNA SINENSIS.

This Chinese Little Tern is a very common summer visitor to the coast about Wei Hai Wei, where the dry sandy flats, which attract Pallas's Desert-Lark and the Kentish Plover, afford it also every facility for breeding purposes. In its habits this species closely resembles its near ally, *Sterna minuta*; it fishes in precisely the same manner and mobs intruding Hawks and Gulls with the same reckless courage and unceasing clamour, but in Shantung it was never observed to lay its two or three eggs on shingle. Invariably, the nesting-site was a small hollow in the sand, and this, indeed, it was thought, was made by the sitting bird, for when eggs were found quite fresh the depression was not to be seen.

Two eggs form the usual clutch and three are unusual. They closely resemble those of *Sterna minuta*, but dark brownish-coloured specimens are more common than among those of that species. The earliest date on which eggs were found was May 23rd and the latest June 13th. All the birds seemed to have taken their departure to the south early in September.

Forty-two eggs of this species from Shantung average $1.25 \times .94$ inch, and vary in length from 1.35 to 1.16 and in breadth from 1.02 to .88.

LARUS CRASSIROSTRIS.

The Bar-tailed Gull is a very common bird in the vicinity of Wei Hai Wei, and has, so far as is known, the distinction of being the only species of the genus which breeds in that part of China. It is probably subject to considerable seasonal movements, for in very cold and rough winter weather specimens not uncommonly occur as far south as Hong Kong.

This bird in its habits closely resembles *Larus canus*, and was found to be very tame and confiding, resting on the water close to the ship. The only breeding-site near Wei Hai Wei which this bird habitually uses is Alceste Island, which is mentioned by Swinhoe in his article

on the birds of Chefoo ('Ibis,' 1874, p. 424). Swinhoe's informants were, however, very late in the season in exploring this islet, and almost all the nests at the time of their visit contained young birds; they stated that no nest held more than two eggs or young.

On May 15th thirteen fresh eggs of this species were obtained on Alceste Island, and on July 20th a couple more were taken. The nests were all placed in a small cliff which faces the mainland of North-East Promontory; there were no nests on the grassy top of the island nor on any of the surrounding islets. The nests were not very bulky, the bases being of dried seaweed and coarse herbage and the linings of fine grass. Some nests contained two eggs and others three.

In colour these specimens varied from a light brownish-green to a dark brown stone-colour, and the markings were of dark brown, grey, and slate.

Fifteen eggs average 2.59×1.55 inches; the length varied from 2.55 to 2.30 and the breadth from 1.61 to 1.77 inch.

LARUS VEGÆ.

These Herring-Gulls were first seen on August 14th, and by the end of that month a few were about Wei Hai Wei Harbour. By the middle of September they were abundant, and at the end of the month very numerous. The majority were immature, but a considerable minority were still in adult plumage. It is of interest to observe that *Larus cachinnans* was not met with at Wei Hai Wei, but it is the only Herring-Gull which occurs in full plumage at Hongkong, where adults of *Larus vegæ* are never seen. Swinhoe met with this species at Chefoo as early as July.

LARUS GLAUCUS.

Glaucous Gulls were met with on several occasions at Shi Tao and about North-East Promontory in September and October, and usually in stormy weather.

PODICIPES FLUVIATILIS.

Little Grebes were not abundant on the lagoons of fresh water which occur near Shi Tao and the North-East Promontory. These birds breed rather late, as one fresh egg was obtained on July 20th, and on August 28th a young bird not very long hatched.

XXVIII.—*On the Birds collected by Mr. Claude H. B. Grant at various Localities in South Africa.*—Part III. By W. L. SCLATER, M.A., F.Z.S., M.B.O.U. *With Field-Notes* by the Collector.

[Continued from above, p. 437.]

THE numbers in front of the names of the Birds are those of the 'Check-list of South-African Birds,' published by me in 1905 (Ann. S. Afr. Mus. iii. pp. 303-387), which is founded upon the four volumes of the 'Birds of South Africa' by myself and the late Dr. Stark.

In order to save space the following contractions are used :—

CC. = Cape Colony.

Tv. = Transvaal.

N. = Natal.

P. = Portuguese East Africa.

Z. = Zululand.

382. UPUPA AFRICANA.

Tv. Woodbush, May, June (2); Legogot, May (1);
P. Coguno, Aug. (2); Beira, Dec. (1).

[The African Hoopoe has been noted from the Cape Peninsula (March 1903), the Eastern and North-Eastern Transvaal, and the Inhambane and Beira districts of Portuguese East Africa. It appears to be a local migrant to a certain extent—as, for instance, at the Woodbush it was only observed in the winter, none being met with in the summer season; and at the Cape I have only seen it in the month mentioned, although I was there in both February and March and again in October. It is usually seen in pairs or